CLAIMS:

1. A radial inlet assembly for a compressor, the assembly comprising:

- a radial inlet adapted to be in fluid communication with the compressor; and
- a restricting member covering the radial inlet and receiving a circumferentially asymmetric airflow, the restricting member partially blocking the airflow around the radial inlet, the restricting member blocking a greater portion of the airflow where the airflow is greater to circumferentially redistribute the airflow in a more symmetric manner around the radial inlet.

2. A radial inlet assembly as defined in claim 1, wherein the restricting member includes a plurality of openings, an effective area of the openings varying so as to be smaller where the blocked portion of the airflow is greater.

3. A radial inlet assembly as defined in claim 2, wherein the openings are circular holes.

4. A radial inlet assembly as defined in claim 1, wherein the radial inlet and the restricting member are annular.

5. A radial inlet assembly as defined in claim 1, wherein the airflow is provided through a plenum which partially surrounds the restricting member and has one open end in fluid communication with the atmosphere.

6. A radial inlet assembly as defined in claim 2, wherein the plurality of openings are equally distributed on the restricting member, and the effective area is varied by having openings of various areas.

7. A radial inlet assembly as defined in claim 2, wherein the plurality of openings have a same area, and the effective area is varied by varying a density of a distribution of the openings.

8. A radial inlet assembly as defined in claim 1, wherein the airflow reaching the radial inlet is circumferentially symmetric.

9. A radial inlet assembly as defined in claim 1, wherein the restricting member is a plate having a variable effective open area.

10. A restricting member for straightening an airflow in a radial inlet of a compressor in a gas turbine engine, the restricting member comprising:

- an annular body adapted to cover the radial inlet such as to partially block the airflow, the annular body being separated in a plurality of regions having a same area, extending along a length of the body and covering a same angular portion of the body, such as to define a first region, a second region diametrically opposed to the first region, and a plurality of intermediary regions extending therebetween; and
- a plurality of openings in the annular body, the openings in each region defining an effective opening area, the effective opening area being minimal in the first region and becoming progressively greater in adjacent intermediary regions in a symmetrical manner such as to reach a maximum in the second region.

11. A restricting member as defined in claim 10, wherein each region as the same number of openings, and the effective opening area is varied by having openings of different sizes in adjacent regions.

12. A restricting member as defined in claim 10, wherein the plurality of openings have a same size, and the effective opening area is varied by having a different number of openings in adjacent regions.

13. A radial inlet assembly for a compressor in a gas turbine engine, the assembly comprising:

- first means for radially providing an airflow having a first circumferentially asymmetric distribution;
- second means for delivering the airflow to the compressor;
- third means for covering the second means such as to partially block the airflow; and
- openings provided in the third means, an effective area of the openings varying along the third means such that a blocked portion of the airflow is greater where the airflow is greater, so that the airflow enters the second means with a second distribution which is less circumferentially asymmetric than the first distribution.

14. A radial inlet assembly as defined in claim 13, wherein the openings are equally distributed along the third means, and the effective area is varied by having openings of various sizes.

15. A radial inlet assembly as defined in claim 13, wherein the openings have a same area, and the effective area is varied by varying a density of openings along the third means.

16. A radial inlet assembly as defined in claim 13, wherein the third means comprise an annular perforated plate with variable open area.

17. A compressor inlet assembly comprising a radial inlet receiving a flow of incoming air, a perforated plate covering the radial inlet, the perforated plate having a variable open area over a length thereof, the open area being greater where the flow of air is weaker.

18. A compressor inlet assembly as defined in claim 17, wherein the perforated plate separates the radial inlet from a surrounding plenum.

19. A compressor inlet assembly as defined in claim 18, wherein the plenum is U-shaped, and wherein the perforated plate is annular.

20. A compressor inlet assembly as defined in claim 19, wherein the open area increases in a direction away from an open end of the plenum to reach a maximum at a location adjacent to a closed end of the plenum.

21. A compressor inlet assembly as defined in claim 17, wherein the perforated plate defines a plurality of holes, and wherein the open area is varied along the plate by varying at least one of the size and a density distribution of the holes.

22. A method for increasing the uniformity of an airflow around a radial inlet of a compressor in a gas turbine engine, the method comprising the steps of:

a) evaluating the airflow along a circumference of the radial inlet to determine at least a first region where the airflow is greater and a second region where the airflow is weaker;
b) providing a member covering at least the first region of the radial inlet; and
c) variably obstructing the airflow along the circumference of the inlet with the member to redistribute the airflow in a more circumferentially symmetric manner around the radial inlet.

23. A method as defined in claim 22, wherein step a) further includes evaluating the airflow along a circumference of the radial inlet to determine a plurality of intermediary regions where the airflow is greater than in the second region and weaker than in the first region, the airflow in adjacent intermediary regions being different, and wherein in step b) the member covers at least the first region and the plurality of intermediary regions of the radial inlet.